PRODUCTION OF CRYSTALLIZED ZIRCONIA SOL

Publication number: JP1076919
Publication date: 1989-03-23
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Classification:
- International: ***C01G25/02;*** **C01G25/00;** (IPC1-7): C01G25/02
- European:
Application number: JP19870233340 19870917
Priority number(s): JP19870233340 19870917

Abstract of **JP1076919**

PURPOSE:To obtain the titled stable sol having fine particle size and free from secondary coagulation tendency, with simple process, by heating an aqueous suspension containing zirconium hydroxide, keeping the hot state in an acidic atmosphere having a specific pH range, evaporating and drying the obtained aqueous suspension containing crystallized ZrO2 and adding the dried product to an aqueous solvent. CONSTITUTION:An aqueous solution of a Zr salt (e.g., ZrCl4) and, as necessary, salt of other element (e.g., YCl3) is neutralized and coprecipitated with a base to obtain an aqueous suspension containing zirconium hydroxide and, as necessary, hydroxide of other element such as Y. The aqueous dispersion is adjusted to a concentration of <=1mol./1 optionally after washing, heated at >=80 deg.C, adjusted to an acidic state of pH1-5.5 e.g. by the addition of an acid and maintained in hot state of e.g. 150 deg.C for about 12hr until crystallized substance is sufficiently produced. The obtained aqueous dispersion containing crystallized ZrO2 is evacuated to dryness at <=200 deg.C preferably under reduced pressure at <=100 deg.C and the obtained solid lump is added to an aqueous solvent under normal temperature and pressure condition to obtain the objective sol.

5, 6, 7, 8, 12, 14, 15, 18, 19, 24, 26, 28, 29, 30

PATENT ABSTRACTS OF JAPAN

(11)Publication number : **64-076919**

(43)Date of publication of application : **23.03.1989**

(51)Int.Cl. C01G 25/02

(21)Application number : **62-233340**

(22)Date of filing : **17.09.1987**

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(57)Abstract:

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CONSTITUTION: An aqueous solution of a Zr salt (e.g., ZrCl4) and, as necessary, salt of other element (e.g., YCl3) is neutralized and coprecipitated with a base to obtain an aqueous suspension containing zirconium hydroxide and, as necessary, hydroxide of other element such as Y. The aqueous dispersion is adjusted to a concentration of ≤1mol./1 optionally after washing, heated at ≥80°C, adjusted to an acidic state of pH1W5.5 e.g. by the addition of an acid and maintained in hot state of e.g. 150°C for about 12hr until crystallized substance is sufficiently produced. The obtained aqueous dispersion containing crystallized ZrO2 is evacuated to dryness at ≤200°C preferably under reduced pressure at ≤100°C and the obtained solid lump is added to an aqueous solvent under normal temperature and pressure condition to obtain the objective sol.

LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]